

NAME: _____ CLASS: _____ DUE DATE: _____

7th GRADE SCIENCE FIRST SEMESTER EXAM STUDY GUIDE for 2018-19

Questions are based on state standards covered during first semester.
Textbook references are listed.

Nature of Science Handbook in back of book (NH2 to NH11)

- SC.7.N.1.1: What are the key elements that are needed for a controlled experiment?
Explain independent variable, dependent variable, and constants.
How many variables are changed in a controlled experiment?
Explain observations (qualitative vs quantitative), inferencing, and predicting
- SC.7.N.1.2: What is the difference between repetition and replication of an experiment?
- SC.7.N.1.3: What is the difference between obtaining knowledge from a controlled experiment versus other forms of scientific investigation?
- SC.7.N.1.4: What is the test (independent) variable in an experiment?
What is the outcome (dependent) variable in an experiment?
- SC.7.N.1.5: How are the methods used in the different branches of science similar and different?
- SC.7.N.1.6: What is empirical evidence, and why is it necessary for science?
- SC.7.N.2.1: Scientific knowledge is gained after debate and confirmation within the scientific community. Give an example when scientists debated over some new discovery, and finally came to a conclusion and acceptance of new scientific knowledge.
- SC.7.N.3.1: What is the difference between scientific theories and laws?
Give an example of one theory you learned and the evidence that supports it.
- SC.7.N.3.2: How are scientific models useful, and what are their limitations?

Math Skill Handbook in back of book (MH2 to MH19)

- SC.7.N.1.1: What are the common SI Units used for measurement?
What are the uses for line graphs, bar graphs, and circle graphs?

CHAPTER 8.2

- SC.7.P.10.1: The sun's energy arrive to the Earth as radiation in a variety of waves.
Explain how we classify the waves of the electromagnetic spectrum.
- SC.7.P.10.2: What happens to light when it hits an object?
Explain reflection, refraction, and absorption.

CHAPTER 8.1

SC.7.P.10.3: Explain how sound waves differ when traveling through different substances such as solids, liquids, and gases.

CHAPTER 6.1

SC.7.P.11.2: What is the difference between energy transfer and transformation?
Give examples of the different forms of energy.

CHAPTER 6.2

SC.7.P.11.3: What is the Law of Conservation of Energy?
How is energy conserved during the energy transformations in a flashlight?

CHAPTER 6.3

SC.7.P.11.4: Describe how heat flows when objects are two different temperatures.
Explain the processes of energy transfer and give examples of conduction, convection, and radiation.

CHAPTER 6.4

SC.7.P.11.1: What happens to a substance when you add or remove heat from it?
Explain the processes of melting, freezing, vaporization, and sublimation.

CHAPTER 12.3

SC.7.L.17.1: Explain the roles/jobs of producers, consumers & decomposers in an ecosystem.
How do producers, consumers, and decomposers affect each other?
Explain how energy moves in a food chain, food web, and energy pyramid.

CHAPTER 12.1 and 12.3

SC.7.L.17.2: Compare and contrast the relationships between organisms in an ecosystem.
Include: mutualism, predation, parasitism, competition & commensalism.

SC.7.L.17.3: Explain carrying capacity.
What are examples of limiting factors?
How do limiting factors affect a population in an ecosystem?